

Code No: M0126/R07

Set No. 1

**IV B.Tech I Semester Supplementary Examinations, Feb/Mar 2011
INDUSTRIAL WASTE AND WASTE WATER MANAGEMENT
(Civil Engineering)**

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. Draw a flow diagram of general treatment of cotton and woolen textile mill waste. [16]
2. What are the main differences between volume reduction and strength reduction? [16]
3. Give suggestions on how to control the Industrial waste disposal into lakes. [16]
4. Explain the methods of removal of Phosphorus and Nitrogen from industrial waste water recirculation treatment. [16]
5. Describe paper and pulp manufacturing process and sources of the wastes. [16]
6. (a) Mention the typical characteristics of distillery plant effluent.
(b) Explain the different approaches available for the treatment of dairy waste water. [8+8]
7. (a) What is coke Oven plant in the manufacture of Steel. Also Discuss the source and types of waste water from coke Oven Plant.
(b) Describe the treatment of coal washery waste by coagulation. [8+8]
8. Explain how do you plan and data required for design of the common effluent treatment plant for the following industries:
(a) A group of cotton textile dyeing units.
(b) A group of chrome tanning industries. [8+8]

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Set No. 2

**IV B.Tech I Semester Supplementary Examinations, Feb/Mar 2011
INDUSTRIAL WASTE AND WASTE WATER MANAGEMENT
(Civil Engineering)**

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. Draw a flow diagram of general treatment of cotton and woolen textile mill waste. [16]
2. Define neutralization of industrial waste? Where is it located in treatment process? Explain its importance. [16]
3. Explain briefly the methods of disposal of industrial effluents and standards of quality to control water pollution. [16]
4. Explain the general process of recirculation of industrial waste. [16]
5. (a) Describe sources of waste water originate from different operations in the tanning process.
(b) Discuss the treatment of tannery waste in detail. [8+8]
6. (a) What are the various sources of waste water from a molasses based disillery. Mention the typical characteristics waste water from each source.
(b) Explain the various treatment process schemes of distillery effluent by means of neat process flow diagrams. [8+8]
7. (a) Explain the impact of the pharmaceutical waste water on aquatic environment.
(b) Briefly describe the different treatment processes available for pharmaceutical effluents. [8+8]
8. (a) Discuss the concept of common effluent treatment plant.
(b) Discuss the operation and maintenance problems of common effluent treatment plant. [8+8]

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Set No. 3

**IV B.Tech I Semester Supplementary Examinations, Feb/Mar 2011
INDUSTRIAL WASTE AND WASTE WATER MANAGEMENT
(Civil Engineering)**

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. What are the advantages and disadvantages of Boilers and cooling water? [16]
2. What are the main differences between volume reduction and strength reduction? [16]
3. What are the advantages and disadvantages of disposal of industrial waste into streams? [16]
4. What are the factors to be considered for the use of treated municipal waste water in industries? [16]
5. (a) Explain the processing of raw cotton to finished cloth with the help of a flow diagram.
(b) Describe the treatment of Viscose - Rayon waste.][8+8]
6. Explain the effects of the following industrial effluent on aquatic environment when discharged without treatment
(a) Nitrogenous fertilizer plant effluent
(b) Molasses based distillery effluent
(c) Dairy effluent. [16]
7. Explain the Complete treatment of sugar mill waste with the help of a flow diagram. [16]
8. Explain how do you plan and data required for design of the common effluent treatment plant for the following industries:
(a) A group of cotton textile dyeing units.
(b) A group of chrome tanning industries. [8+8]

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Set No. 4

IV B.Tech I Semester Supplementary Examinations, Feb/Mar 2011
INDUSTRIAL WASTE AND WASTE WATER MANAGEMENT
(Civil Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Draw a flow diagram of general treatment of cotton and woolen textile mill waste. [16]
2. Explain the necessity of equalization and proportioning for industrial waste water treatment. [16]
3. Find out dilution required for the disposal of industrial waste water into a stream given the following data:
 Sewage : Temperature = 30⁰C
 BOD at 30⁰ C = 3000 mg/lit
 DO = 0
 Stream : Temperature = 30⁰ C
 BOD at 30⁰ C = 3 mg/lit
 DO = 20% below saturation value of 7.6 mg/lit.
 Minimum DO to be maintained = 5mg/lit
 Assume $K_{30}=0.1585$, $r_{30}=0.235$ and Relative BOD at 30⁰ C =95% . [16]
4. What are the general uses associated with waste water reuse? [16]
5. (a) Explain the two methods suggested for the recovery of Zinc from Viscose Rayon waste.
 (b) Explain the types of wastes originate in a viscose Rayon plant and the sources of different wastes with the help of a flow diagram. [8+8]
6. (a) Draw a neat flow diagram for operations and sources of waste water in a urea manufacturing plant.
 (b) Explain the basic process steps in the manufacture of urea. [8+8]
7. (a) What is coke Oven plant in the manufacture of Steel. Also Discuss the source and types of waste water from coke Oven Plant.
 (b) Describe the treatment of coal washery waste by coagulation. [8+8]
8. Explain how do you plan and data required for design of the common effluent treatment plant for the following industries:
 (a) A group of cotton textile dyeing units.
 (b) A group of chrome tanning industries. [8+8]
